

# Information Brochure



Scheme for Promotion of Academic and Research Collaboration



शिक्षा मंत्रालय  
MINISTRY OF  
EDUCATION

सत्यमेव जयते



IIT Kharagpur  
National Coordinating Institute

## SCHEME FOR PROMOTION OF ACADEMIC & RESEARCH COLLABORATION

Website: <http://www.sparc.iitkgp.ac.in>

# THE VISION

❑ Scheme for Promotion of Academic and Research Collaboration (SPARC) is a flagship mobility grant of the Ministry of Education to foster international academic collaboration by facilitating academic and research collaborations between Indian institutions and the best institutions in the world from 28 selected countries to jointly solve problems of national and international relevance.



❑ The program aims at exposing a large number of young students, the torchbearers of the future generation, to state-of-the-art developments in science and technology, thereby increasing the number of highly trained scientific manpower in the country, as well as significantly enhancing the visibility of Indian science and scientists in the world map of highly advanced science.

❑ It is expected that some of the joint ideas would not only lead to breakthroughs in science but would also result in sustainable technological products that will be beneficial to mankind at large, in addition to fulfilling the needs of India.

❑ The major outcome of the SPARC initiative will be strong research collaboration between Indian research groups with best-in-class faculty and renowned research groups in the leading universities of the world, in areas that are at the cutting edge of science or with direct social relevance to mankind, specifically of India.

# OBJECTIVE

The scheme proposes to enable productive academic cooperation by supporting the following critical components that can catalyze impact-making research, namely:



Visits and long-term stays of top international faculty/researchers in Indian institutions to pursue teaching and research.



Consolidation of Bilateral cooperation through academic and research partnerships through Indo-X Workshops in India.



Visits by Indian students for training and experimentation in premier laboratories worldwide.



Publication, Dissemination, and Visibility through a high-profile annual international Conference in India.



Joint development of niche courses, world-class books and monographs, translatable patents, demonstrable technologies.



Patents, products, scaled-up pilot plants/demonstration units.

## ELEMENTS OF A SPARC COLLABORATION

A SPARC collaboration consists of a bilateral team working on a research/capacity-building project with the following features:

The topic of the research proposal falls in one of the Thematic Areas of SPARC and addresses a challenging issue of theoretical, experimental, and/or translational value.

The team must comprise **at least** of:

Faculty members may be from one or more eligible institutions on either side

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Each side will have a lead institution (LI) and principal and co-principal investigators.

International Faculty members

Indian faculty members

Students/researchers pursuing Undergraduate/Postgraduate/Ph D or post-doc level from each side

## Partner Countries



Australia



Austria



Belgium



Brazil



Canada



China



Denmark



Finland



France



Germany



Hong Kong



Israel



Italy



Japan



Netherlands



New Zealand



Norway



Portugal



Russia



Singapore



South Africa



South Korea



Spain



Sweden



Switzerland



Taiwan



United Kingdom (UK)



United States of America (USA)





# Eligible Institutes

## Indian Institutes

### Eligibility

- Top 100 Higher Education Institutions as per the NIRF (National Institutional Ranking Framework, MoE) ranking in 'Overall' or all 'Subject-wise' categories are eligible under SPARC.
- All Central Universities and Institutes of National Importance (including those having a NIRF ranking of more than 100) are eligible under SPARC.

### Coordination Mechanism

Each eligible Institution will have an identified Institute Coordinator selected by the Head of the Institution and a SPARC Committee for monitoring the SPARC programme in the Institute. The institute coordinator will invite the PI to submit the proposal with user ID and Password.

## International Institutes

### Eligibility

- Top 800 Overseas Higher Education Institutions based on the QS (Quacquarelli Symonds) world ranking, from as many as 28 foreign countries (the countries originally involved in SPARC), will be under the purview of SPARC.
- Foreign Institutes may also be outside QS 800 rankings if recommended by the Institute Coordinator (IC) and approved by the Empowered Committee for Industry and International Collaborations (ECIIC), subject to the proposal's relevance based on strategic priorities



# SPARC Phase III Themes

Advanced Materials, Rare-earth & Critical Minerals	Energy, Sustainability and Climate Change	Agri & Food Technologies	Semiconductors
Advanced Computing(Supercomputing, AI, Quantum Computing)	Healthcare & MedTech	Space and Defence	Next-Gen Communications
Disaster Management & Resilient Infrastructure	Blue Economy	Smart Cities & Mobility	Manufacturing & Industry 4.0

## Rules specific to Projects with the UK

All joint projects with the UK will be funded jointly with SPARC and the UK-India Education and Research Initiative (UKIERI) under:

- Strand 1 of UKIERI Phase 4 in the themes**
  - Semiconductors
  - Artificial Intelligence
  - Advance Computing
  - Next Gen Communication
- Strand 3 of UKIERI Phase 4 in the theme**
  - Energy, Sustainability and Climate Change

# Budget and Funding Details



**Funding Period** **2 Years**

## Eligible heads for funding

- Support for international faculty to cover travel, stay, honorarium, etc.
- Support for international travel of Indian faculty, if other funding sources are not available
- International travel and allowance of scholars during the period of stay abroad
- Allowance for stay of international students in India
- Budget for workshops
- Contingency for accessories, consumables, chemicals, video recording, fieldwork, documentation, local travel in India, contingencies, institutional costs, miscellaneous, etc.

## Budget

- Up to Rs. 5 Crores for regular projects
- Rs. 5 to 12 Crores for capacity-building projects

## Items NOT covered under SPARC funding

- Any major equipment/infrastructure
- Scholarship/stipend of Indian or foreign scholars

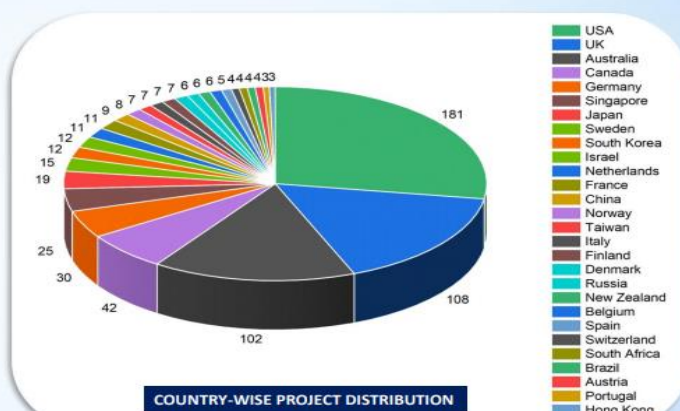
**The SPARC funding is expected to be complemented by one or more of the following sources:**

- Funding from Indian institute towards equipment, infrastructure, travel of Indian faculty, and stipend of scholars.
- Funding from external funding agencies for complementary ongoing projects
- Additional support from the Indian or international partner institute

# Statistics

## OVERVIEW

Approved Proposals (Phases I and II)	658
Projects with G20 countries	605
Indian Institutes	80
International Institutes	218
Total Countries	28
Total Budget	410 Cr.
Applications received for Phase III	755



# KEY PERFORMANCE INDICATORS



## PROGRESS

Foreign Faculty visits to India	465
Indian faculty visits Abroad	130
Indian Students' visits Abroad	234
Foreign Students' visits to India	43
SPARC Workshops	383
International Conferences	50
Monographs	154
Journal Articles	699
Conference Proceedings	367
Patents Filed (Granted)	30 (3)
Products Developed	30

## PATENTS

Microwave pyrolysis of non-edible cassia fistula seed pods over activated biochar for the production of bio-oil
Microrreactor with microheater for biodiesel production
Quartz Reactor Vessel

## TOP SPARC WORKSHOPS

SPARC-Indo-US Immunology Workshop	IIT Ropar; George Washington University, USA
Globalization and New Terrains of Consciousness: Phenomenologies of the Global/Local/Glocal	Jamia Millia Islamia; Julius-Maximilians-Universität Würzburg, Germany
Indo-US Webinar & Lecture Series on Advanced Functional Materials for Renewable Energy Application	Jamia Millia Islamia; Texas A&M University, USA
Indo-US Workshop on Application of Data Science in Biological Systems	IIT Kharagpur; Arizona State University, USA
Translational research in Neuroengineering and Neurorehabilitation	IIT Gandhinagar; Univ. At Buffalo Suny, USA
Eye Tracking Technology in Dentistry	Sri Ramachandra IHER; The Univ. of Western Australia

## TOP PUBLICATION JOURNALS

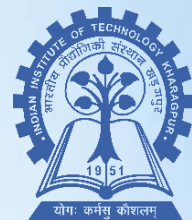
ACS Nano	IF: 17.1
Chemical Engineering Journal	IF: 15.1
IEEE Transactions on Evolutionary Computation	IF: 14.3
Environment International	IF: 13.4
Nature NPI Flexible Electronics	IF: 12.0



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## The SPARC Team



**Prof. Virendra Kumar Tewari, Director, IIT Kharagpur  
(National Coordinator)**

### Core Committee Members



**Prof. Debalay  
Chakrabarti**



**Prof. Pallab  
Banerji**



**Prof. Tarun K  
Bhattacharyya**



**Prof. Pulak  
Mishra**



**Prof. Sanjeev K  
Srivastava**



**Prof. Arijit De**



**Prof. Rabibrata Mukherjee  
(Joint National Coordinator)**



**Priya Nandi**



**Soumick Sarker**

**SPARC Student Interns**

**Liaison Officer (SPARC):** Mr. Atul Juyal, ICC, MoE, New Delhi

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